

IN THE CLAIMS

This listing of the claims replaces all prior versions of the claims in the application.

1. (currently amended): A method of eliciting a humoral immune response against a hepatitis C virus (HCV) E2 or E1E2 antigen comprising the step of (a) administering to a subject (i) a composition comprising an isolated polynucleotide encoding an HCV E1E2 antigen, wherein the E1E2 antigen consists of an HCV E1 polypeptide and an HCV E2 polypeptide and optionally an HCV p7 polypeptide, and further wherein the E1E2 antigen encoded by the polynucleotide is consists of a sequence selected from the group consisting of a sequence of amino acids corresponding to amino acids 192-~~715~~746 and optionally amino acids 747-809 numbered relative to the HCV-1 polyprotein, a sequence of amino acids corresponding to amino acids 192-~~661~~749 and optionally amino acids 747-809 numbered relative to the HCV-1 polyprotein, and a sequence of amino acids corresponding to amino acids 192-~~674~~809 and optionally amino acids 747-809 numbered relative to the HCV-1 polyprotein, or (ii) a composition comprising an isolated polynucleotide encoding a ~~full-length truncated~~ E2 antigen, wherein said ~~full-length truncated~~ E2 antigen does not include the p7 polypeptide, wherein the E2 antigen encoded by the polynucleotide is consists of a sequence selected from the group consisting of a sequence of amino acids corresponding to amino acids 384-~~715~~746 numbered relative to the HCV-1 polyprotein, a sequence of amino acids corresponding to amino acids 384-661 numbered relative to the HCV-1 polyprotein, and a sequence of amino acids corresponding to amino acids 384-~~674~~749 numbered relative to the HCV-1 polyprotein,
wherein the E2 or E1E2 antigen encoded by the polynucleotide is produced intracellularly and not secreted when expressed in cells of the subject.
2. (canceled)

3. (previously presented): The method of claim 1, wherein the humoral immune response generates at least one neutralization of binding (NOB) antibody.

4. (previously presented): The method of claims 1 or 3, wherein the composition comprises an isolated polynucleotide that encodes an E1E2 antigen, wherein the E1E2 antigen consists of an HCV E1 polypeptide and an HCV E2 polypeptide and optionally an HCV p7 polypeptide.

5. (previously presented): The method of claims 1 or 3, wherein the composition comprises an isolated polynucleotide that encodes a full-length E2 antigen.

6. (previously presented): The method of claims 1 or 3, wherein the HCV E1E2 antigen does not comprise a p7 polypeptide.

7. (canceled)

8. (previously presented): The method of claims 1 or 3, wherein the polynucleotide is in a plasmid.

9. (previously presented): The method of claims 1 or 3, wherein the subject is infected with an HCV.

10. (previously presented): The method of claims 1 or 3, wherein the subject is not infected with an HCV.

11. (previously presented): The method of claims 1 or 3, further comprising the step of administering cardiotoxin to the subject.

12. (previously presented): The method of claims 1 or 3, wherein the polynucleotide is administered using a microparticle.

13. (previously presented): The method of claim 12, wherein the microparticle is a poly(D,L-lactide-co-glycolide) (PLG) microparticle.

14. (previously presented): The method of claims 1 or 3, wherein the subject is a mammal.

15. (original): The method of claim 14, wherein the mammal is selected from the group consisting of a mouse, a rabbit, a guinea pig, a macaque, a baboon, a chimpanzee, and a human.

16. (previously presented): The method of claims 1 or 3, wherein the polynucleotide is administered using a biolistic delivery device.

17. (previously presented): The method of claims 1 or 3, wherein the polynucleotide is administered by a method selected from the group consisting of intramuscular, subcutaneous, intraperitoneal, intranasal, oral, and intradermal administration.

18. (original): The method of claim 3, wherein the neutralizing of binding antibody inhibits binding of an E2 polypeptide to its cognate receptor by an amount which is greater relative to binding of the E2 polypeptide to its cognate receptor in the absence of the neutralizing of binding antibody.

19. (original): The method of claim 3, further comprising the step of detecting the neutralizing of binding antibody.

20. (original): The method of claim 3, wherein the neutralizing of binding antibody inhibits binding of the E2 polypeptide by at least 50% at a dilution of at least 1:70.

21. (original): The method of claim 3, wherein the neutralizing of binding antibody inhibits binding of the E2 polypeptide by at least 50% at a dilution of at least 1:140.

22. (original): The method of claim 3, wherein the neutralizing of binding antibody inhibits binding of the E2 polypeptide by at least 50% at a dilution of at least 1:300.

23. (original): The method of claim 3 wherein the neutralizing of binding antibody inhibits binding of the E2 polypeptide by at least 50% at a dilution of at least 1:600.

24. (original): The method of claim 3, wherein the neutralizing of binding antibody inhibits binding of the E2 polypeptide by at least 50% at a dilution of at least 1:800.

25. (original): The method of claim 3, wherein the neutralizing of binding antibody inhibits binding of the E2 polypeptide by at least 50% at a dilution of at least 1:3,000.

26. (previously presented): The method of claims 1 or 3, further comprising repeating step (a).

27. (previously presented): The method of claims 1 or 3, further comprising administering to the subject a polypeptide encoded by the polynucleotide.

28. (previously presented): The method of claim 8, wherein the subject is infected with an HCV.

29. (previously presented): The method of claim 8, wherein the subject is not infected with an HCV.

30. (previously presented): The method of claim 8, further comprising the step of administering cardiotoxin to the subject.

31. (previously presented): The method of claim 9, further comprising the step of administering cardiotoxin to the subject.

32. (previously presented): The method of claim 10, further comprising the step of administering cardiotoxin to the subject.

33. (previously presented): The method of claim 8, wherein the polynucleotide is administered using a microparticle.

34. (previously presented): The method of claim 9, wherein the polynucleotide is administered using a microparticle.

35. (previously presented): The method of claim 10, wherein the polynucleotide is administered using a microparticle.

36. (previously presented): The method of claim 11, wherein the polynucleotide is administered using a microparticle.

37. (previously presented): The method of claim 33, wherein the microparticle is a poly(D,L-lactide-co-glycolide) (PLG) microparticle.

38. (previously presented): The method of claim 34, wherein the microparticle is a poly(D,L-lactide-co-glycolide) (PLG) microparticle.

39. (previously presented): The method of claim 35, wherein the microparticle is a poly(D,L-lactide-co-glycolide) (PLG) microparticle.

40. (previously presented): The method of claim 36, wherein the microparticle is a poly(D,L-lactide-co-glycolide) (PLG) microparticle.

41. (previously presented): The method of claim 13, wherein the subject is a mammal.

42. (previously presented): The method of claim 37, wherein the subject is a mammal.

43. (previously presented): The method of claim 38, wherein the subject is a mammal.

44. (previously presented): The method of claim 39, wherein the subject is a mammal.

45. (previously presented): The method of claim 40, wherein the subject is a mammal.